

What is claimed is:

1. A method comprising:  
receiving a request to perform a write operation to a device;  
determining whether the device is activated or inactivated;  
if the device is determined to be activated, accessing the device to perform the requested write operation; and  
if the device is determined to be inactivated, buffering the write operation to physical memory.
2. The method of claim 1 further comprising determining whether the device is operating in a limited power state prior to determining whether the device is activated or inactivated.
3. The method of claim 1 wherein the device comprises a disk drive, a non-volatile memory component, or a network access device.
4. The method of claim 1 wherein determining whether the device is activated or inactivated comprises determining whether the device is powered-up or powered-down, respectively.

5. The method of claim 1 wherein receiving a request to perform a write operation comprises using an intermediate file system driver to intercept a request bound for a file system driver.

6. The method of claim 1 further comprising writing one or more buffered write operations to the device upon an occurrence of a predetermined condition.

7. The method of claim 6 wherein the predetermined condition comprises one or more of the following: detecting that a memory write buffer is full, detecting that a predetermined amount of time has lapsed, detecting that a predetermined volume of data has been buffered, detecting that battery power is at a threshold level, detecting that a computer system with which the device is associated is being turned off or put in a standby state, and detecting an explicit request that the write buffer contents be committed to non-volatile storage.

8. The method of claim 6 further comprising receiving user input relating to one or more predetermined conditions.

9. The method of claim 1 further comprising determining whether the requested write operation corresponds to an entity registered to participate in the method of controlling device write operations.

10. The method of claim 1 wherein buffering the write operation to physical memory comprises deleting from physical memory a prior buffered write operation request that seeks to modify a same storage location on the device as the write operation to be buffered.

11. A method comprising:

receiving a request from a process to read a portion of a file from a device;

determining whether a limited power condition exists;

if a limited power condition is determined not to exist, accessing the device to read the requested file portion into memory; and

if a limited power condition is determined to exist, accessing the device to read a superset of the requested file portion into memory.

12. The method of claim 11 wherein reading a superset of the requested file portion into memory comprises reading the entire file into memory.

13. The method of claim 11 wherein reading a superset of the requested file portion into memory comprises reading a subset of the entire file into memory.

14. The method of claim 13 further comprising identifying the subset of the entire file to be read into memory.

15. The method of claim 14 wherein identifying the subset of the entire file to be read into memory is based on one or more file access trends.

16. The method of claim 11 further comprising returning the requested file portion to the requesting process.

17. The method of claim 11 wherein, if a limited power condition exists, the requested file portion is read from the device and returned to the requesting process before a remainder of the superset is read into memory.

18. The method of claim 11 wherein, if a superset of the requested file portion is read into memory, further comprising accessing the superset read into memory to fulfill a subsequent request from the process for a portion of the file.

19. The method of claim 11 further comprising, if a superset of the requested file portion is read into memory, deactivating the device.

20. The method of claim 11 wherein the device comprises a disk drive or a network access device.

21. The method of claim 11 wherein reading the superset of the requested file portion into memory comprises translating the received read request for the file portion into a plurality of read requests that collectively cause the superset to be read from the device.

22. The method of claim 11 further comprising determining whether the requested read operation corresponds to a file type registered to participate in the method of controlling device read operations.

23. The method of claim 11 wherein each of a plurality of file types has an associated priority and wherein the method further comprising selectively storing the superset of the requested file portion into memory based on its relative priority.

24. A processor operating to perform operations comprising:  
detecting that a time-out period is to expire for  
deactivating a device that provides access to data;  
determining whether a limited power condition exists; and  
if a limited power condition is determined to exist,  
writing one or more buffered write operations from memory to the device before the device is deactivated.

25. The processor of claim 24 wherein the device that provides access to data comprises a disk drive or a network access device.

26. The processor of claim 24 wherein determining whether a limited power condition exists comprises determining whether a system associated with the device is operating under battery power.

27. A machine-accessible medium embodying information for causing a machine to perform operations comprising:  
determining a power state of a device; and  
selectively buffering a file system write request relating to the device based on the determined power state of the device.

28. The medium of claim 27 wherein determining a power state of a device comprises determining whether the device is operating under battery power.

29. The medium of claim 27 further comprising instructions for writing one or more buffered write operations to the device upon an occurrence of a predetermined condition.

30. The medium of claim 29 further comprising information for causing a machine to deactivate the device after writing the one or more buffered write operations.

31. A machine-accessible medium embodying information for causing a machine to perform operations comprising:  
determining a power state of a device; and  
based on the determined power state of the device and in response to a file system request to read a portion of the file

from the device, selectively reading a superset of the requested file portion from the device into physical memory.

32. The medium of claim 31 wherein selectively reading a superset of the requested file portion comprises reading the entire file into physical memory.

33. The medium of claim 31 wherein determining a power state of a device comprises determining whether the device is operating under battery power.

34. The medium of claim 31 wherein selectively reading a superset of the requested file portion from the device into physical memory comprises translating the file system request to read a portion of the file portion into a plurality of read requests that collectively cause the superset to be read from the device.

35. The medium of claim 31 wherein the requested file portion is read from the device and returned to a requesting process before a remainder of the superset is read into physical memory.

36. The medium of claim 31 further comprising accessing the



superset read into physical memory to fulfill a subsequent file system request to read a portion of the file.

37. The medium of claim 31 further comprising information for causing a machine to deactivate the device after reading the superset of the requested file portion.